NATS

Performance
through Innovation

London CTR: Reclassification

Consultation Feedback Report

Version 1.0
January 2014

Prepared by
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Airspace Change Assurance

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1 Introduction

NATS is proposing to implement a change to the airspace classification of the London CTR on 18th September 2014. This change is necessary in order to maintain compliance with UK and European law and accommodate all current airspace users, with minimal impact upon their current operations.

To this end between June 2012 and December 2013 NATS carried out a consultation exercise seeking feedback from stakeholders on the proposal to reclassify the London CTR.

This report documents the feedback received from stakeholders during the consultation. For details of the changes please refer to the consultation document, which is available from the NATS website:

http://www.nats.aero/environment/consultations/london-ctr-reclassification/

2 Confidentiality

The CAA Safety and Airspace Regulation Group (SARG) requires that all consultation material, including copies of responses from stakeholders, are included in any formal Airspace Change Proposal (ACP) submission to the CAA. Where specifically requested, details which may identify an individual will be removed before submission.

NATS undertakes not to disclose the personal details or content of responses and submissions to any third parties, apart from the necessary submission of material to the CAA and essential use by our consultants for analysis purposes in developing this report and subsequent ACP material.

3 Purpose & Scope of the Consultation

Between June 2012 and December 2013 NATS carried out a consultation exercise seeking feedback from stakeholders on the proposal to reclassify the London CTR.

The purpose of the consultation exercise was to allow stakeholders to consider the proposal and provide NATS with feedback. This consultation was carried out in accordance with guidance provided by the Government and the CAA and in accordance with CAP725. Following the conclusion of the formal consultation this Feedback report was produced and made available to all consultees and members of the public.

This Feedback report should be read in conjunction with the Consultation Document.

3.1 What was Not Included in the Consultation

The consultation did not cover:

- a change to the vertical or lateral shape or size of the current London CTR volume;
- a change to the shape or control authority of the London City CTR or CTA (Control Area);
- a change to the shape of the Inner Area of the CTR (in which prior permission is required to enter;
- the introduction or removal of low level routes, helicopter routes, reporting points, holding points or Visual Reference Points (VRPs);
- the lowering of any low level or helicopter routes or the LFA (Local Flying Areas);
- consultation on SERA itself nor the CAA's UK implementation proposals.

3.2 Aviation Stakeholders

All stakeholders included as recipients of this consultation are listed in Appendix A of the consultation document. This list includes groups representing the interests of General Aviation (GA), sport & recreational aviation, and commercial operations within the London CTR. This includes the Heathrow Airport FLOPC as well as Police, medical flights and the Military.

3.3 Non-Aviation Stakeholders

Only limited consultation with non-aviation stakeholders was carried out on the basis that there is likely to be little change from operations as they are today. NATS consulted with the Heathrow Airport Consultative Committee (HACC) which has representation from the local boroughs[1] within the area encompassed by the London CTR and therefore within the scope of this change.

[1] See Consultation Document Appendix A for a list of the boroughs included in the HACC

4 Consultation Engagement

4.1 Pre-Consultation Engagement

In order to maximise the effectiveness of the formal consultation pre-consultation presentations were made to:

- Heathrow Airport Consultative Committee,
- Heathrow Flight Operations Committee (FLOPC) & a selection of airlines,
- British Airline Pilots Association (BALPA),
- a selection of representative organisations making up the users of the London CTR (including smaller aerodromes).

This last group was split into General Aviation and Commercial/Professional users (police, air charter etc.) who were presented to on different days. Feedback sought after these sessions was positive with follow up questions and answers being given to ensure that all stakeholders were fully aware of the details of the change.

The role of the pre-consultation exercise was to inform the attendees of the reason for change, to detail the various options and explain why some are unsuitable. Of the two options which NATS believed to be the most suitable, (Classes C & D), an increased level of detail was given to allow the audience to make a considered judgement, whilst at the same time explaining the reasoning for Class D being NATS preferred solution.

Since this pre-consultation exercise was conducted, safety workshops indicated that Class D airspace, when considering the overall system and all airspace users, is safer than Class C and as a consequence NATS presented Class D airspace as the only option for formal consultation. Simulations were also conducted in a Class D environment and substantiated the view that a Class D CTR represents an efficient and safe environment in which to accommodate the IFR and VFR needs of Heathrow airport and the London CTR.

The pre-consultation exercise was used to help shape the formal consultation in that it allowed NATS an early view of people's opinions and perceptions, and indicated where further work was required. This resulted in some of the consultees being included in the safety assurance workshops and being given a demonstration of Class D radar operations within the adjacent London City CTR.

4.2 Formal Consultation Engagement

A detailed consultation document was prepared by NATS, (available to download from the NATS consultation webpage). The document detailed the reason for making the proposed change, the scope and purpose of the consultation, current ATC operations, options considered, and NATS preferred design solution.

The consultation ran for 12 weeks from 1st October 2013 until 24th December 2013 during which time queries and questions received were answered to enable further comments from respondents. At the conclusion of the consultation period this post-consultation Feedback report was produced and distributed to respondents via the NATS consultation webpage and distribution of the appropriate link, via email.

5 Statistics

On the day of launch the Consultation document was sent to 36 NATMAC members (including the MoD), the HACC secretary, the Heathrow FLOPC Chair, 15 local airfields and 48 aircraft operators, giving a total of 101 formal invitees. This is illustrated in Figure 1.

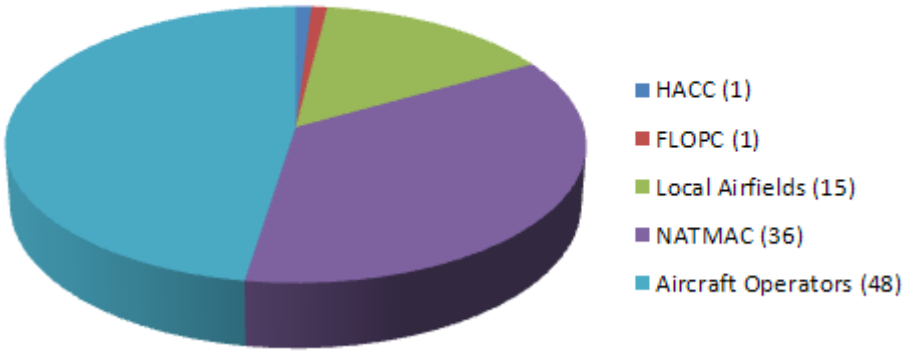

Figure 1: Breakdown of the Invited Consultees

The response rate (40 responses in total) from invited consultees and others are given in Figure 2.

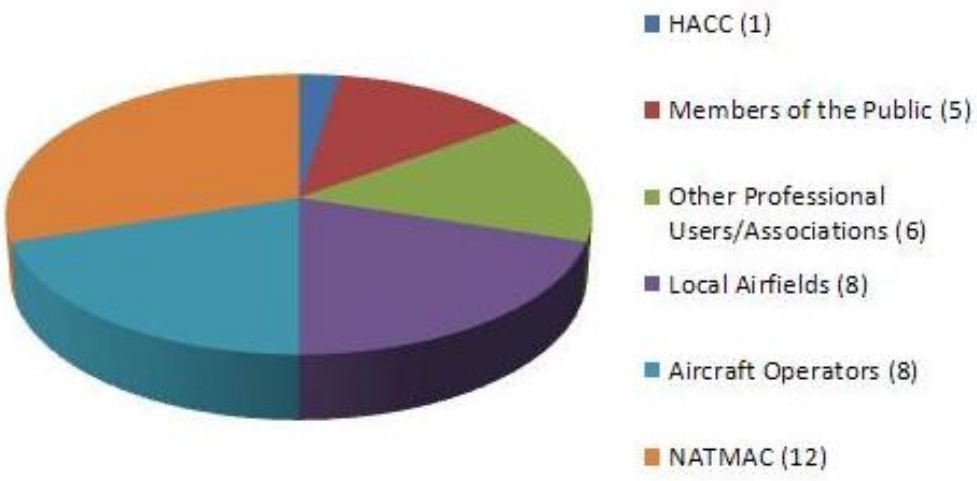

Figure 2: Response Rate from All Consultees

The results of the 40 responses are given in Figure 3. They can be broken down as follows:

- 30 Support
- 7 No Objection
- 2 No Comment
- 1 Objection

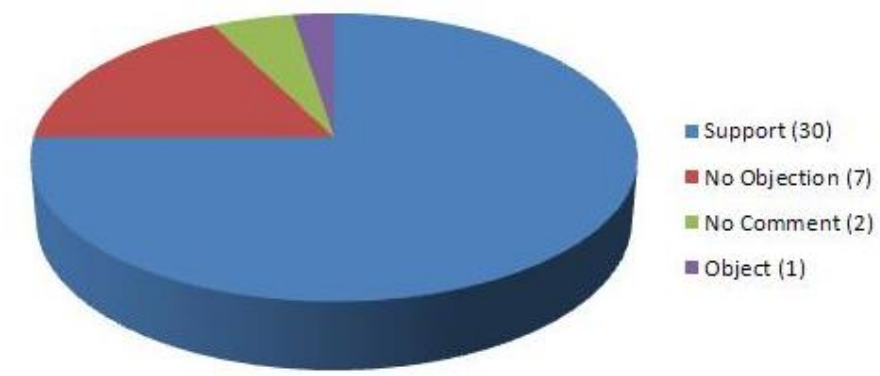

Figure 3: Nature of Responses

6 Consultee Responses

6.1 Consultee Response Summary

Of the 40 responses received, the nature of the responses was as follows:

- 30 – Support
- 7 – No Objection
- 2 – No Comment
- 1 – Objection

Many of these responses contained additional comments. These comments can be broken down as follows:

- 27 – Support for the change
- 4 – Caveats to this Support
- 3 – Questions related to the change
- 1 – Explanation as to why the organisation could not comment
- 1 – Explanation for Not Objecting
- 2 – General comments
- 1 – Explanation for Objecting

6.2 Key Themes Arising

From the comments, as categorised above, key themes can be extracted as follows:

6.2.1 Support for the Change

- Standardization of the airspace, in line with the majority of other UK zones and the adjacent London City zone will make it an easier environment in which pilots can operate. Other Class D zones around major airports operate safely and efficiently and London should be no different.
- Increased flexibility for control of the traffic should make it easier pilots and controllers, should decrease airborne holding, reduce noise and emissions and costs for operators whilst still protecting the Inner Area and increasing capacity.
- Improved climb performance of IFR traffic and improved navigation performance of all traffic makes the operation, as described in the consultation document, the best option.
- The safety case built by NATS makes this the best option available, understanding that SERA makes a change necessary.
- This change may increase the airspace access to non-IFR traffic
- Operators should see considerable benefits for 'off route' operations through the removal of the standard separation requirements.

6.2.2 Caveats

Four respondents who supported the change did so with caveats to their support. These included three respondents who were concerned that the minimum visibility criteria should remain unchanged and one who wished NATS to able to reverse the change if Functional Airspace Blocks were not ultimately introduced within the UK.

6.2.2.1 Visibility Criteria

"Please note that our only caveat is that the current conditions for flight in the Brooklands Local Flying Area remain unchanged – i.e. aircraft remain below cloud in sight of the ground and with a minimum flight visibility of 3km".

"However we would not support any punitive change to the current meteorological criteria which permit flight within the Fairoaks LFA without reference to Heathrow namely, minimum flight visibility of 3km and below cloud and within sight of the ground".

"Our one concern is to preserve the minima in the White Waltham Local Flying Area. We hope that the existing minima within the LFA will remain the same under the new classification".

NATS Response: Discussions with the CAA regarding this subject centred upon NATS desire to maintain the current operating minima within LFAs, after any change. Exemptions will be required and the final decision lies with the CAA however NATS is prepared to work with the authority to try to ensure that this happens.

6.2.2.2 Functional Airspace Blocks

"…with the following proviso. As the driver for the changes is the introduction of Functional Airspace Blocks (FABs) in European airspace, should the FABs not be implemented, then NATS should reserve the right not to implement the airspace changes in order to remain consistent with the ICAO Annex 11 categorization of airspace".

NATS Response: The driver for this change is the European SERA regulations and the harmonisation of ATM standards that this will bring across Europe. Whilst FABs are a feature of European cooperative working across the ATM domain it is not believed that they have influence on or are influenced by the introduction of the SERA regulations.

6.3 Other Questions & Comments

6.3.1 Questions Related to the Change

Three respondents who supported the change also posed questions with their responses. Questions 2 & 3 below were answered during the period of the consultation whilst question 1 was answered post consultation. Where the text states 'NATS Responded', this represents a response which was sent during the course of the consultation and is repeated here. Where the text states 'NATS response', no individual response has yet been sent to the respondent. The answer given here should be taken as the response.

6.3.1.1 Question 1

"*I note the TMZ Mode S requirement. Will it be possible for specific helicopters to be granted an exemption from this, provided they have Mode C, during Royal Ascot?*"

NATS responded, "The London CTR is already mandatory Mode S Elementary by virtue of the fact that it is Class A airspace. Changing to Class D + Mode S Elementary TMZ does not change the requirement. However, the CAA is able to issue Mode S exemptions. NATS may also be able to issue exemptions, but that would need to be verified with the CAA at a future date".

6.3.1.2 Question 2

"The problem I foresee, however, is the requirement to have an 8.33KHz radio fitted from Jan 1st 2014 till the proposed classification change in 2014. This would be a pointless expense as none of the frequencies required currently are in those bandwidths. There are also very few VFR/IFR helicopter fitted with these types of radios so the expense to the industry would be massive.

I would like to think that there has been some joined up thinking applied to this and that some form of exemption would be applied. However, my best guess is that everyone will ignore it for 9 months and then pretend it was never a problem in the first place.

Any feedback you have on this issue would be appreciated as it will directly affect work that I can quote for (assuming I do not have a new radio fitted)."

NATS Responded, "We have been in discussion with the CAA regarding the 8.33Khz radio carriage issue. They have assured us that an exemption for SVFR aircraft within the London CTR will be issued to cover the period between 1st January 2014 and the reclassification of the London CTR to Class D. You should see a NOTAM covering this exemption shortly."

6.3.1.3 Question 3

"1. Will CAA/NATS define the weather degradation requirements for VFR to SVFR? i.e. when the visibility drops to below 1500m.

2. Will SVFR remain under Part SERA? Or is it VFR or IFR?

3. Will we be allowed to fly <1000' of obstacles within 600m when VFR on the Heli routes and/or with Lon CTR? Or will we have to request SVFR to go <1000'? Will SVFR always be granted when requested?

4. Will you provide SVFR – SVFR separation? If so what distances?"

NATS Responded,

"1) The CAA will define the VMC minima that defines the transition from VFR to SVFR.

Under SERA, the VMC minima for VFR flight (rotary and fixed wing) in Class D are 5km flight visibility, 1000ft vertically and 1500m laterally clear of cloud. As this is very restrictive, the CAA is looking into a derogation from SERA to maintain the current UK VMC minima (i.e. 1500m visibility for rotary and clear of cloud with the surface in sight). Whether or not this derogation happens is outside of NATS' control.

Under SERA the SVFR minima for rotary wing aircraft in Class D is 800m flight visibility (1500m for fixed wing).

2) SVFR remains available under SERA - "Definition 122. 'Special VFR flight' means a VFR flight cleared by air traffic control to operate within a control zone in meteorological conditions below VMC;"

3) NATS proposes that the CAA notify all of the helicopter routes in the London CTR as exempt from the 1000ft rule, under an equivalent to rule 6 that the CAA proposes to retain. Under this same rule, SVFR flights will also be exempt from the 1000ft rule.

The definition of SVFR under SERA is quite specific in that it is for conditions below VMC. Therefore it is expected that VFR flights away from the helicopter routes would be expected to comply with the 1000ft rule, and it will be incumbent on controllers to issue clearances to allow this. Landing and departing in London would be permitted as normal low flying rules exemptions, so would not require a SVFR clearance.

SVFR clearances would be issued based on controller workload and separation requirements. [Flights with] CAT C or E flight priority would be very likely to receive SVFR clearance upon request as only Police and Helimed flights are a higher priority, as today.

4) SVFR will be separated from other SVFR and IFR, as today. The same separations will be available, e.g.:

- 3nm lateral
- 1000ft vertical
- Geographical separation (River Thames, M4 motorway, M3 Motorway).
- Visual separation on the helicopter routes
- Visual separation in the vicinity of an aerodrome".

6.3.2 Comments

Two comments were made which did not require specific answers.

6.3.2.1 Comment 1

This comment was put forward by the military.

"This change should have no impact on military operational training, indeed it may enhance the ability of military assets to enter Class D given the rules relating to Class D and VFR.

6.3.2.2 Comment 2

"I would also like you to consider the following suggestion; I realise that it is outside the terms of the re-classification consultation, and so am not requesting that this be considered as a formal comment on the consultation. I suggest the portion of airspace you designate the "outer area" is made class G airspace up to an altitude of 1500ft.

Around the western side of the CTR there are several pinch points that concentrate light VFR traffic, greatly increasing the likelihood of conflicting tracks. A Traffic service from Farnborough radar would be very helpful for traffic avoidance, but is often unavailable due to controller workload. Clearly controller workload is higher when the traffic density is higher, which is just when a Traffic service would be most useful. A greater lateral area of airspace available to light GA would make flight in this area much safer.

The consultation document mentions the BUR-Ascot thoroughfare as a non-promulgated route, but available for SVFR/VFR traffic at ATC discretion. The implication is that at that range from Heathrow the performance of IFR Traffic is such that VFR traffic at, for example, 1500ft alt would not erode separation margins. Therefore I would like to suggest that the outer area up to an altitude of 1500ft becomes Class G airspace. As the CTR is proposed to become a TMZ then this area would also be so.

Could I further suggest that Junction 7 on the M4 is used as the corner point, rather than BUR (or a VRP on that point). Perhaps it would be sensible to limit this class G airspace to west of a line (say) north-south through Heathrow (as the airspace to the east of that line is heavily built up and not typically available to light VFR aircraft)".

6.4 Response from Heathrow Airport Limited (HAL)

Heathrow Airport Limited (HAL) submitted a comprehensive response which did not support the change to Class D airspace, within the context of the work currently undertaken and evidenced in the consultation document. Whilst they accept that if there is a requirement to change from Class A, then Class D is the next best option, they have raised several issues which they wish to be answered before they are in a position to endorse NATS' view that a change to Class D is the most beneficial option.

Their issues have been raised against the appropriate headings in the consultation document. These issues are detailed below, along with the NATS response. The full response from HAL has been forwarded to the CAA as part of the Airspace Change submission.

6.4.1 Why the Need for Change

HAL acknowledges that if a change has to be made then it is necessary to permit the entry of helicopter and fixed wing SVFR flights but is not aware that any attempt was made to seek exemption from the legislation.

NATS Response: In 2011, The CAA wrote to NATS twice stating that there was no scope whatsoever to accommodate routine Special VFR flights within Class A Airspace, which will not be permitted following SERA's implementation. The CAA also stated that a reclassification of the London CTR to one that permits VFR and Special VFR flight will be necessary in order to ensure UK compliance with SERA regulations and greater compliance with the conditions associated with the ICAO airspace classifications that could lead to the removal of a UK Difference to Annex 11. Given the CAA's viewpoint, NATS decided not to pursue an exemption from the legislation.

6.4.2 Environmental Assumptions

HAL recognized that there may be some reduction in helicopter holding times and consequential reduction in noise, fuel burn and emissions but feel that this has not been balanced with the likelihood of an increase in traffic.

NATS Response: The likelihood of an increase in traffic is associated with the likelihood that there will be greater traffic demand and that NATS Terminal Control will allow that traffic into the London CTR.

The traffic demand is related to many factors of which the Airspace Classification is probably not one. For example, over the past five years, SVFR traffic volumes in the combined London and London City CTR have reduced significantly due to economic considerations (35,000 in 2007 to 23,000 in 2012 and 24,000 in 2013).

The likelihood that NATS Terminal Control will allow more traffic into the London CTR depends upon when the traffic calls, where the pilot wishes to go and the overall traffic environment. If the pilot calls when the London CTR is busy (which is almost always, given Heathrow is operating at near 100% capacity), and the pilot wishes to go directly across the zone, air traffic control will refuse clearance to enter the zone as they do now.

Note: It is difficult to forecast future VFR/SVFR demand. What can be said is NATS Terminal Control and NATS Heathrow will ensure safety and IFR service is maintained in the context of proposed access rules.

6.4.3 Safety

HAL was pleased to see safety workshops/simulations conducted with good representation but sought clarification as to whether the simulations included:

- *Workload increases*
- *Northolt traffic*
- *HAL traffic levels*
- *TCAS RAs*
- *Zone Infringers*
- *Increased altitude on helicopter routes*

NATS Response: NATS held four days of simulations in Sept 2013 attended by SARG policy, SARG safety and BALPA representatives. In addition, NATS Heathrow, NATS TC and Military Northolt TC controllers attended.

Workload of TC, Heathrow Tower, and Northolt controller Human Factors assessments were made after each run (there were 15 separate runs over the four day period covering Easterly and Westerly operations as well as normal and heavier traffic volume runs) and Safety assessments were made at the end of each day. At the end of the four days, training points for each ATC position were recorded.

The Simulations found that -

Human Factors: There was no additional workload or decrease in situational awareness imposed by the change in airspace. The move to Class D airspace provides additional flexibility which may result in a reduced level of workload in abnormal operating conditions, when compared with the current Class A configuration.

Safety: From a Safety perspective the simulations provided valuable assurance to the viability of reclassifying the airspace from Class A to Class D. Controllers concluded that overall there where benefits to introducing Class D airspace and that they were able to maintain their ability to control traffic safely using the flexibility and options available to them. Controllers did raise some issues, recommendations and observations which will be addressed and tracked by NATS through to implementation. None of the items raised were considered to be detrimental to the implementation of Class D airspace.

TCAS RAs: The simulators do not have the ability to measure TCAS RAs, however traffic interactions of less than 1nm and 500ft were measured as was the incidence of Short Term Collision Alert (STCA) activation. There were no more interactions in Class D than during the Class A baseline exercises.

Zone Infringers: Procedures and Tools (like CAIT) under Class A and Class D to handle zone infringers will not change. There will be no difference from current operations. However, it is expected that "Remain Outside Controlled Airspace" will be used more to prevent infringements if more aircraft request clearances due to Class D.

Increased altitude on helicopter routes: Class D exercises used the new helicopter altitudes [H3 & H9 from 800 to 1000ft amsl, BUR NDB – Ascot thoroughfare for VFR only from 1000 to 1200ft amsl, SVFR unchanged, Off-route operations at the London Heliport from 1000 to 1300ft amsl), with the results as covered above.

6.4.4 Efficiency & Resilience

HAL sought assurance that the following issues have been taken into account:

- *Impact of increased workload on all controllers – TC (SVFR & Thames), Heathrow Tower & the Heathrow Operation*
- *Mitigation against the increased risk of infringers*
- *Education/awareness programme for commercial aircrew*
- *Education/awareness programme for the GA community*

NATS Response:

Controller Workload – as mentioned in a previous response, there was no additional Controller workload or decrease in situational awareness imposed by the change in airspace. The move to Class D airspace provides additional flexibility which may result in a reduced level of controller workload in abnormal operating conditions, when compared with the current Class A configuration.

Mitigation against the increased risk of infringers – Given that many of the characteristics of the London CTR are not changing, we do not think there will be an increased risk of infringing aircraft. [note: infringements seem to be related to the size of the CTR and the positions of GA airfields as well as common routes in relation to the CTR. None of these will change with a reclassification of the Airspace].

NATS believes that the risk of infringing aircraft is likely to be less due to the extensive engagement of commercial pilots by the Airline Operators, and the GA community through the CAA's introduction of SERA communication programme (a full awareness campaign) and NATS Reclassification of the London CTR engagement programme during the summer 2014. CAA's programme will focus on the UK introduction of SERA, resulting changes to the Air Navigation Order and UK Rules of the Air. NATS programme will focus on:

1. How the Heathrow CTR and Inner Area operate and why they are necessary
2. Shape of the Inner Area and the limits of the airspace
3. Clearance limits and routing points; the importance of straight and level
4. Why a SVFR clearance may not be issued (due to weather / capacity)
5. Simpler rule set; separation expectations

In addition, NATS will continue to support the CAA Infringement working group, and the CAA's Airspace Safety Initiative to manage and control infringement risks in the London TMA. Note: Over the past three years (2011 to 2013), the number of infringers has varied. The biggest influence on infringers seems to be Pilot education / awareness. From Quarter 3, 2013 analysis of pilot infringement questionnaires indicates that the top 5 causal factors (in order of highest to lowest) are: Weather, Navigation (Mis-identification of Land Features, Inadequate Knowledge of Airspace), Distractions (Pilot Workload) and Planning (Poor/Incorrect Pre-Flight Briefing).

Lessons that need to be learned by the Aviation Community are (in order of highest to lowest order): Make (better) use of an ATC service, improve flight planning, make better use of a GPS navigation system, undertake further instruction (navigation, flight planning, r/t, GPS) and avoid CAS by a wider margin.

6.4.5 Why Implementation for 2014?

HAL wished to understand the training burden on both TC and Heathrow Tower controllers before considering the timescale for introduction, in relation to the following points:

- *Time allocated for the writing of new procedures*
- *The factoring in of the training burden in the tower in respect of the timescale*
- *The operational/impact assessment that this training will have*
- *The factoring in of the training burden in TC in respect of the timescale*
- *The operational impact/assessment this training will have*

NATS Response:

Procedures – the September 2013 simulations used the procedures that will be implemented in Sept 2014. These procedures were designed with TC and Heathrow Tower controllers in June/July after the conclusions of the Hazard ID workshops at the beginning of June. So, the burden of writing the procedures has been spread over time so as to not to affect current or future operations.

Training burden and operational impact assessment – the TC procedures have been designed to minimise the impact on Heathrow Tower operations to that which is required to be consistent with current Class D operations as defined in SERA and the expected changes to the UK rules of the Air. Training needs and operational resource assessment completed, at the end of December 2013, indicated that both TC and the Tower can implement the change in Sept 2014 with minimal impact to on-going operations. These conclusions will be further tested at the end of April 2014 when Training Material and Simulations will be validated for controller acceptance.

6.4.6 Class A (Do Nothing Option)

HAL are concerned that the possibility of an exemption from the legislation for Heathrow was not considered.

NATS Response: As previously stated, in 2011, The CAA wrote to NATS twice stating that there was no scope whatsoever to accommodate routine Special VFR flights within Class A Airspace, which will not be permitted following SERA's implementation. The CAA also stated that a reclassification of the London CTR to one that permits VFR and Special VFR flight will be necessary in order to ensure UK compliance with SERA regulations and greater compliance with the conditions associated with the ICAO airspace classifications that could lead to the removal of a UK Difference to Annex 11. Given the CAA's viewpoint, NATS decided not to pursue an exemption from the legislation.

6.4.7 Effects of VFR Entry into the CTR

There is no evidence of an assessment of the effect of the increased height on the heli-routes. HAL would like to understand the impact of this.

NATS Response: In developing the proposed procedures for Class D airspace, NATS carried out Operational Analysis of Heathrow departure performance in 2011/2012 looking at both westerly and easterly departures. The analysis focussed on days with higher temperatures to ensure we were looking at worst case climb performance. To capture enough data for easterly operations, a temperature of at least 15°C was used, which was raised to 20°C for the westerly analysis. To give extra assurance for the easterly helicopter route procedures and taking advantage of the very hot summer with easterly winds, a further analysis of 2013 easterly departures was carried out using a minimum temperature of 22°C.

The part of H3 between Thorpe and Sunbury Lock is being increased from 800ft to 1000ft to reduce the number of altitude changes on the route and to provide a small environmental improvement with no effect on Heathrow, given that runway 23 closed some years ago. During westerly operations, the effected part of H3 only interacts with DVR/DET departures. Of the 9182 DVR/DET departures that were within the time windows, 7399 crossed the relevant part of H3 above 4000ft. Of the remaining 1743 aircraft, the average altitude was 3517ft. No aircraft crossed H3 less than 1000ft above the increased H3 level, and only 3 departures crossed the route less than 1200ft above the route.

During easterly operations, H3 between Thorpe and Sunbury Lock only interacts with CPT departures. The Operational Analysis concluded that the A340 200/300 variants have (by a considerable margin) the worst departure climb performance and therefore the relevant portions H3 (and H10) routes will be sterilised for these types. The part of H3 increasing by 200ft lies to the west of H9. The average altitude of CPT departures on crossing H9 before reaching the affected part of H3 is 2950ft. Only VFR helicopters will be permitted to fly this part of H3 during easterly operations, unless a southbound check (straight ahead until 1500ft) is applied as per today to ensure separation from SVFR helicopters.

The 1.5nm long portion of H9 south of Sunbury Lock is increasing to 1000ft to avoid the anomaly of having H3 cross at Sunbury Lock at a higher altitude than H9. During westerly operations, there is no interaction at all between departures and the part of H9 between Sunbury Lock and the London/Woking railway line increasing from 800ft to 1000ft.

During easterly operations, H9 between Sunbury Lock and the London/Woking railway line interacts to a small degree with MID/CPT departures, however it is unusual for this part of H9 to be directly overflown. The vast majority of CPT departures remain north of Sunbury Lock with MID departures to the south of the railway line. The constraining factor on H9 is the extant route altitude of 1500ft south of the London/Woking railway line (1.5nm south of Sunbury Lock). It is due to this higher altitude and the interaction between CPT departures and H9 north of Sunbury Lock (hence remaining at 800ft) that coordination from TC SVFR to Heathrow Tower for the use of H9 during easterlies will still be required in Class D, and procedures put in place to ensure safety.

6.4.8 Justification

HAL feels that the justification table for Class D within the consultation document does not take account of Heathrow controller training and does not adequately explain the environmental benefits as discussed in 6.4.2.

NATS Response: TC and Heathrow controller training needs and operational resource assessment were completed at the end of December 2013. They indicated that both TC and the Tower can implement the change in Sept 2014 with minimal impact to on-going operations. These conclusions will be further tested at the end of April 2014 when Training Material and Simulations will be validated for controller acceptance.

Environmental benefits – In the consultation document, NATS stated that helicopters may be held less frequently prior to being granted further clearance. This reduction in holding should realise improvements to noise footprint & fuel burn.

Helicopters are likely to be held less frequently through the application of Visual Flight Rules (where a helicopter pilot is primarily responsible for his own separation from other helicopters and IFR aircraft). In the controller's judgement, he may issue a clearance under VFR rules (which will be possible under Class D) in situations where he would not issue a clearance under current SVFR rules.

6.4.9 Changes to the CTR, Routes & Traffic

HAL would like assurances that the altitude restriction changes on H3, H9, H10 and BUR-Ascot do not impact the Heathrow operation.

NATS Response: The minor altitude changes on H3 and H9 are discussed in previous paragraphs.

BUR-Ascot will only be increased to 1200ft for VFR aircraft to enable better compliance with the 1000ft rule. SVFR aircraft will remain at 1000ft as extant to maintain standard separation.

Runway 09L/R arrivals pass over the 1200ft BUR-Ascot track between 1000-1100ft above (i.e. at a minimum of 2200ft), therefore it is not anticipated that this will affect the Heathrow arrivals in any way.

Analysis of westerly departures and their interaction with the BUR-Ascot track gives a very high degree of assurance that this change will not affect IFR traffic. Of the 13892 BPK/WOB departures analysed, 12671 were above 4000ft on passing BUR. Of the remaining 1183 aircraft the average altitude was 3584ft, with no aircraft less than 1000ft above the track and with only 2 aircraft achieving between 1100-1400ft separation above the track.

Of the 7416 westerly CPT/SAM departures analysed, 5617 were above 4000ft on passing the 1200ft BUR-Ascot track. Of the remaining 1770 aircraft the average altitude was 3476ft with no aircraft less than 1000ft above the track and with only aircraft achieving between 1000ft-1100ft above the increased track height.

6.4.10 TCAS

HAL would like to see evidence that NATS has considered the increased risk of TCAS RAs, especially when H3, H9, H10 and BUR-Ascot are being raised or indeed the impact that this may have.

NATS Response: Based on the Operational Analysis detailed in previous paragraphs, NATS is confident that the minor increases in height of H3, H9 and BUR-Ascot will have no effect on TCAS activity, however any trends will be monitored after implementation and NATS will respond accordingly. The post implementation review after 12 months will consider TCAS as one of the key issues.

Due to the way the airspace will be managed, the vast majority of traffic in the London CTR will not interact with Heathrow IFR traffic, routing around the Inner Area at distances/altitudes that provide standard separation (or near to standard separation), or deemed separations already in use today. Increased use of the helicopter routes H3 and H10 during easterly operations has taken into account the poorest performing departures and the associated risk of TCAS RA, and as such the effected parts of those routes will be sterilised for A340 200/300 departures.

Within the PPR Inner Area, controllers will be trained to use techniques that minimise the risk of TCAS RA and avoid close interactions between IFR and VFR traffic. To further reduce the risk, within the Inner Area, only high priority off-route aircraft will be permitted to transit through the final approach and departure routes.

Whilst TCAS activity could not be measured in the 4 day real-time simulations in September 2013, other measures indicated that TCAS RA would not be a significant issue. In both the 4 Class A airspace simulations and the 11 Class D simulations, there were no close interactions between IFR and VFR aircraft on Terminal Control frequencies. It is not expected that such interactions between IFR and VFR traffic on Heathrow Tower frequencies will be managed any differently to today.

6.5 Response from BALPA

A comprehensive response was received from BALPA, who supported the change. However, BALPA's additional comments do not easily fit into the key themes above and within their response they include mitigations which have been put in place during the pre-consultation and formal consultation periods. The full response has been forwarded to the CAA, however in summary they have stated:

6.5.1 Key Themes & Caveats

- BALPA supports the London CTR change to Class D airspace
- BAPLA also endorses the International Federation of Airline Pilots (IFALPA) view that ordinarily only airspace Classes A to C should be used to accommodate Commercial Air Transport operations.
- However, they sate that, "….having been fully included by the NATS team at every opportunity to take part at each stage of this project, it became clear that the proposed Class D airspace was to be managed differently. The complexity of the London CTR with Heathrow at its centre makes this airspace unique in the UK. NATS have proposed to mitigate the risk's flagged up during the pre-consultation phases, putting protocols in place….".
- BALPA acceptance of the change of classification to Class D is predicated upon:
    - The London CTR Inner Area boundaries are formally published in the AIP and will therefore be clearly shown on aeronautical charts.
    - The inner area requires prior permission to access between 0430 and 2330, by telephone, at least one hour before entry.
    - The London CTR (inner/outer areas) has a Mandatory Transponder Zone (TMZ), Mode S.
    - Inner Area VFR traffic in close proximity to IFR traffic are on the same frequency
    - The boundary of the CTR Outer Area remains in its current form to act as a buffer from intruders into the inner area.
    - A Post Implementation Review of the London CTR Reclassification takes place one year from the change coming into effect.

6.5.2 BALPA Priorities

From the start of the pre-consultation period BALPAs concerns, in order of priority, have been:

Level of ATC Service:

"That in the proposed Class D for the London CTR, the minimum ATC service to IFR traffic in Class D airspace ('pass traffic information to IFR flights on VFR flights and give traffic avoidance advice if requested'), or in plain English "see and be seen….had clear safety implications.

During the project consultations, Safety Workshops and the Simulation trials for the proposed Class D London CTR, our concerns were alleviated to an acceptable level.

Having witnessed the simulations at the extreme end of traffic complexity, it would be difficult not to conclude that class D, ***with the promised safeguards*** *would provide a potential increase in capacity at LHR for all airspace users with little impact on safety".*

TCAS Issues:

"With the change of airspace from Class A to D with the loss of standard separation it is clear that VFR traffic could potentially get closer to IFR traffic and initiate a TA or RA, both of which would distract the pilots at a critical and very demanding phase of the flight. This was highlighted at the Swanwick Safety Workshops and mentioned in the London CTR Reclassification consultation document (7.2.10).

We fully accept that TCAS TA and RA's can happen in any airspace, but we would suggest that, due to the exceptional environment in the "Inner Area", such a distraction might lead to:

- *A loss of situational awareness which may result in an unstable approach and/or go around.*
- *Unstable approaches are a major threat and in many accidents over the years have resulted in runway excursions*
- *Any GA at LHR at peak has implications for safety and will disrupt the flow process.*
- *GA's by their nature are unexpected and can be very demanding procedures, and are prone to error with evidence to prove this*
- *Distraction on a departure could lead to not complying with the SID, possible altitude bust and or non-compliance with the SOP's.*
- *At 1000ft RA's are inhibited and reverts to TA only. With a TA below 1000ft a quick decision has to be made, GA or Not.*
- *Aircraft entering the inner area on approach are in a high workload situation reconfiguring, adhering to ATC speed requirements whilst also ensuring stabilised approach criteria are met. On many aircraft an RA at this point requires disconnection of all automatics adding a significant increase to this workload and exposing the crew to increased potential threat of errors".*

NATS intends to work with BALPA and the CAA, over the coming months leading to implementation of SERA, to ensure that their issues are addressed and mitigations put in place as much as is practicable.

7 Summary of Airspace Change Proposal

As a result of careful consideration of all consultation responses, NATS intends to proceed to submit an Airspace Change Proposal (ACP) to the CAA. The basis of this proposal will be for the reclassification of the London CTR from Class A to Class D airspace, as described in the consultation document. This ACP will be considered by the CAA and it is expected that they will reach a decision by late spring 2014.

Allowing ATC to exercise an element of expert judgement rather than having to apply a blanket application of standard separation should enable controllers to clear VFR helicopters into the Inner Area to operate in the vicinity of Heathrow with less disruption to IFR traffic. This should deliver a small reduction in delay, ground holding and airborne holding for both IFR and VFR flights.

A significant safety benefit is currently derived from the carriage of Mode-S transponders in the airspace around Heathrow due to the intensity of IFR traffic and the enhancement to TCAS that Mode-S accuracy delivers. Therefore the NATS proposal, post reclassification, is to maintain the current transponder carriage requirement by notifying the London CTR as a Mode-S Transponder Mandatory Zone (TMZ).

Off-route VFR operations will still be able to take place in central London, obeying the 1000ft obstacle clearance rule whilst remaining adequately deconflicted (whilst not separated) from IFR traffic. Similarly, the ability to pass traffic information on VFR flights to IFR and SVFR should result in a small reduction in controller workload with a commensurate ability to slightly increase the access for GA VFR flights into the CTR, notably outside of the Inner Area.

VFR flights operating on helicopter routes H3 and H10 will usually be able to operate without delay caused by Heathrow departures during easterly operations. Due to reduced climb performance of Airbus A340 200/300 aircraft, VFR helicopters will be held for such departures; however departures by these variants are not frequent (less than 10 per day) and will become rarer still in 2015.

An additional safety requirement for VFR aircraft using H3 and H10 during easterly operations as described above, will be that the Heathrow reported cloud ceiling must be at least 2000ft to ensure that there is sufficiently good weather for helicopter pilots to visually acquire departing traffic. The procedures for H3 and H10 during easterly operations will be subject to safety review and modification as necessary, post implementation.

As per current easterly operations, H3 will be unavailable to SVFR aircraft between Sunbury Lock and the junction of H3/H7. As an improvement over current easterly operations, SVFR aircraft using H10 will only be delayed at Gutteridge or Kew Bridge awaiting a gap in **Heavy[2] (e.g. Boeing 747) and Super (i.e. A380)** category departures, due to the lower climb performance of such aircraft and ATC separation requirements between IFR and SVFR traffic.

[2] CAP493 Appendix B, Wake Turbulence Categorisation

Both NATS in general and many of the controllers who manage the London CTR are already highly experienced at safely managing Class D Control Zones. Having the same classification within the adjacent London and London City Control Zones reduces the chances of misapplication of separation standards, due to pilot or controller confusion.

For these reasons NATS operational and safety experts have deemed that Class D airspace is likely to be the safest option assessed, and should deliver small capacity, delay and environmental benefits over today's Class A operation; making it, when considering the overall ATM system and all airspace users, the most appropriate airspace classification for the London CTR.

The consultation period for this airspace change proposal closed on 24th December 2013. All responses submitted will be forwarded to the CAA Safety and Airspace Regulation Group (with personal details removed where requested) who will consider the merits of this proposal.

If you have any further comments you wish to make, these will still be accepted, and if they present new evidence, may still influence the final airspace change proposal (see Section 8, Further Correspondence & Feedback for details on submitting further responses).

7.1 Feedback to Consultees

This consultation feedback report will be made available to download on the NATS consultation website and an email will be sent to all respondents directing them to the download page.

http://www.nats.aero/environment/consultations/

7.2 Post Implementation Review

Approximately twelve months after implementation of any airspace change, the sponsor (in this case NATS) is required to carry out a post-implementation review of the change, to assess and validate the success of the new arrangements. The purpose of the review will be to confirm that the change to Class D airspace is working as forecast in the ACP and has had the desired effect. The post-implementation review also provides an opportunity to identify any unforeseen issues that might have arisen and if so, address these.

This review is governed by the CAA CAP725 process and is conducted in conjunction with the CAA.

NATS is committed to ensuring that any change represents the best possible solution and takes into account the needs of all stakeholders, operational constraints and the CAP725 legal framework.

NATS is confident that the proposal put forward, retaining as it does, existing CAS, helicopter routes and traffic patterns, represents the best possible solution.

8 Further Correspondence & Feedback

In the event that a representative organisation wishes to present new evidence or data to the Safety and Airspace Regulation Group Director, for consideration prior to making his regulatory decision regarding this proposal, the representative organisation must submit, in writing or via email, the information to the following address:

Head of Airspace Policy, Coordination & Consultation
Safety & Airspace Regulation Group,
CAA House,
45-49 Kingsway
London WC2B 6TE

Email: airspacepolicy@caa.co.uk